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ABSTRACT

Multiple regression techniques were used to examine the business side of local television news operations for November 1978. Research questions examined the effect of several variables on local television news prices (advertising rates), including type of ownership, network affiliation/signal type, market size, cable network penetration, market concentration, and market prosperity. It was expected that higher levels of market concentration (making the market less competitive) should lead to higher news prices. Data for the study came from 297 commercial television stations in 105 television markets. The results conformed to theoretical expectations. Specifically, ownership type (group or cross media) had little effect on television news advertising prices; cable network penetration had a significant negative effect on such prices; and market concentration had a significant positive impact on price. The primary policy recommendations suggested by these results are that the Federal Communications Commission (FCC) should continue to pursue procompetitive policies that are most likely to increase the number of television channels from which consumers can choose; and that regulation of the commercial television industry with respect to the FCC's scheme of taxation by regulation (public interest program requirements) must be discontinued as competition is increased. (Author/RL)

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THE EFFECTS OF MARKET STRUCTURE ON TELEVISION NEWS PRICING

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INTRODUCTION

The market for local television news provides the main source of competition among local television stations. Thousands of dollars are spent annually by local stations to get the advice of news consultants regarding who to put on the air, what kinds of stories to cover, and how to provide broadcast coverage of those stories selected. Likewise, many stations have recently made the large capital investments needed to convert from film news equipment to electronic news gathering systems (ENG). From an audience perspective, local news constitutes the most important social benefit which has been derived from the Federal Communications Commission's (FCC) local system of broadcasting. However, the market for local television news has received very little attention when it comes to economic research.

Past economic studies, which have focused on local television news, were conducted by Litman[1] and Prisuta[2]. Both of these studies centered on the development of a market share instability model to explain the observed variation in local television news market shares. Both agree that the local television news market constitutes an oligopoly (there are few enough sellers such that they recognize their mutual interdependence. Litman concludes that market share instability is strongly related to the number of market competitors and that programs preceding the news create a strong audience flow effect[3].

The present study is the first to examine the business side of local television news. Since television audiences are not able to form individual contracts with stations offering local newscasts, the relevant price to be examined is the price charged advertisers for purchasing access to television news audiences[4]. Past studies of television station pricing have been conducted by Owen[5], Lago[6], Peterman[7], and Wirth and Allen[8]. All of these studies examined station-level pricing during prime time and/or from 9 a.m. to

Midnight. The FCC's Crossmedia Ownership Rulemaking[9] provided the primary focal point around which each of these studies centered. The major source of controversy stemmed from whether viewing audience is or is not an exogenously determined independent variable[10]. Owen argued that audience is an endogenous variable and that it should not be included in a reduced form price equation[11]. Lago[12] and Peterman[13] disagreed. Wirth and Allen argued that when local programming is being examined, audience should be treated as an endogenous variable; when national programming is the main focus, however, audience is more properly viewed as an exogenous variable[14]. In the present case, local news audience should be viewed as an endogenous variable and should be excluded from all reduced form estimates. However, since its exclusion (inclusion) is controversial, the regressions provided herein alternately include and exclude news audience as a predictor variable.

This article examines the following research questions concerning local television news pricing: (1) Does the type of ownership which characterizes a particular station have an effect on local television news prices? (2) Does network affiliation and/or signal type affect news prices? (3) What kind of impact does market size have on local news prices? (4) Does cable penetration have an effect on local news prices? (5) Does market concentration have an impact on local news prices? And (6) What kind of impact does market prosperity have on local television news prices?

The basic theoretical expectations are simple. It is expected that station or market level characteristics which are associated with higher levels of market concentration (in other words the market is less competitive) will lead to higher news prices, all other things equal.

The next section describes the methodological approach taken, specifies the model used, defines the variables included and provides relevant hypotheses. This is followed by a results section. The paper concludes with a discussion of the study's policy implications.

METHOD

This cross-sectional analysis focuses on 1978 local television news list prices. Data were obtained from a variety of industry sources. Ordinary least squares (OLS) multiple regression techniques were used to analyze the news pricing behavior of local stations. A random start, systematic sampling technique with a skip interval of two was utilized to provide a sample of 105 TV markets: data were included from 297 commercial TV stations.

Two functional forms were used to analyze news pricing at noon, in the early evening and in the late evening: linear and doublelog. The doublelog functional form is the preferred form for a variety of reasons. First and foremost, utilization of the doublelog form minimizes heteroscedasticity problems. Since the data being analyzed represent both large and small television stations, a linear analysis cannot be expected to have a homoscedastic error term[15]. In the present case, a doublelog functional form is also preferred because it accounts for more of the variance of the dependent variables. Since there is no a priori problem with utilizing a doublelog form, only our doublelog results are reported here.

The general format of the model can be expressed:

$$(1)\quad Y_i = f(X_1, \ldots, X_k) + u_i$$

where Y_i are the news price variables, the X_k are exogenous, and the u_i are random error terms. Some of the X_k are continuous; others are binary variables. The form used to estimate the relationship between local television news prices and a number of different station and market level characteristics was:

$$\begin{aligned}(2)\quad \ln(Y_i) = {} & a_i + b_1 \ln(\text{CABLE}_i \times 100) + b_2 \ln(\text{HERF}_i \times 100) + b_3 \ln(\text{CSIHH}_i/100) \\ & + b_4 \ln(\text{AUDHH}_i/1{,}000) + b_5 \text{TVRAD}_i + b_6 \text{GROUP}_i + b_7 \text{NP}_i + b_8 \text{XMEDIA}_i \\ & + b_9 \text{ABC}_i + b_{10} \text{CBS}_i + b_{11} \text{NBC}_i + b_{12} \text{VHF}_i + b_{13} \text{R10}_i + b_{14} \text{R25}_i \\ & + b_{15} \text{R50}_i + b_{16} \text{R100}_i + b_{17} \text{R150}_i + u_i.\end{aligned}$$ [16]

Where Y_i represents the following dependent variables:[17]

NOON NEWS PRICE - The price of purchasing a 30 second spot on the ith station's midday news report.

EARLY EVENING NEWS PRICE - The price of purchasing a 30 second spot on the ith station's early evening news.

LATE EVENING NEWS PRICE - The price of purchasing a 30 second spot on the ith station's late evening news.

and where:[18]

CABLE - Cable penetration in the ith station's Area of Dominant Influence (ADI) of operation. An increase in a market's cable penetration should lead to an increase in the competition faced by local stations. Consequently, an inverse relationship should exist between cable penetration and price.[19]

HERF - Each market's Herfindahl Index. Since larger Herfindahl Index values are associated with more highly concentrated markets, a positive relationship should exist between the market Herfindahl Index and the ith station's prices.[20]

CSIHH - Total consumer spendable income in the ith ADI per ADI household. Income per household should be positively related to price since advertisers should value richer audiences more than poorer ones.[21]

AUDHH - Average quarter hour household audience for the ith station's Monday through Friday local news broadcasts (noon, early evening, and late evening). This variable is alternately included and excluded from the analyses. When it is included, a positive relationship should exist because advertisers can be expected to pay a higher total price to reach larger audiences.[22]

TVRAD - A dummy variable with a value of 1 if a television station owns a radio station whose city of license is in the same ADI, 0 otherwise. Television station ownership of a radio station in its market of operation should increase the firm's market power and is therefore expected to lead to higher prices.[23]

GROUP - A dummy variable with a value of 1 if a TV station is owned by an entity which owns at least one other TV station, 0 otherwise. The effect of group ownership cannot be predicted a priori.[24]

NP - A dummy variable with a value of 1 if a TV station is owned by a daily newspaper, 0 otherwise. The effect of newspaper ownership cannot be predicted *a priori*.[25]

XMEDIA - A dummy variable with a value of 1 if a TV station is owned by a daily newspaper which is published in the same Area of Dominant Influence (ADI), 0 otherwise. In theory, television stations which are owned by daily newspapers in the same market should possess a larger degree of market power than do the stations with which they compete. This should lead to higher prices.[26]

ABC - A dummy variable with a value of 1 if a TV station is affiliated with the ABC Television Network, 0 otherwise.

CBS - A dummy variable with a value of 1 if a TV station is affiliated with the CBS Television Newtork, 0 otherwise.

NBC - A dummy variable with a value of 1 if a TV station is affiliated with the NBC Television Network, 0 otherwise. Each of these variables should have a positive impact on local news price since they are being compared to the price charged by independent stations.[27]

VHF - A dummy variable with a value of 1 if a TV station is a VHF station, 0 otherwise. VHF stations should have significantly higher prices than their UHF counterparts since VHF's hold a significant technical advantage over UHF's.[28]

R10 - A dummy variable with a value of 1 if a TV station is in the top 10 television markets, 0 otherwise.

R25 - A dummy variable with a value of 1 if a TV station is located in markets 11 to 25, 0 otherwise.

R50 - A dummy variable with a value of 1 if a TV station is located in markets 26 to 50, 0 otherwise.

R100 - A dummy variable with a value of 1 if a TV station is located in markets 51 to 100, 0 otherwise.

R150 - A dummy variable with a value of 1 if a TV station is located in markets 101 to 150, 0 otherwise. It is expected that an increase in market rank (towards the top 10) will lead to an increase in price.[29]

u_i is a random error term, assumed to be distributed normally with a mean of zero.

This analysis is primarily concerned with the price effects: (1) of cable television penetration, (2) of increased market concentration, and (3) of various types of station ownership. The results from testing the estimating equation and the preceding hypotheses are detailed in the next section.

RESULTS

Variable means and standard deviations are provided for a number of important local news related variables (see Table 1). Both the average total list price and the average cost per thousand households increases as the broadcast day progresses from noon news to late evening news. The average list price cost per thousand households found in Table 1 would seem to be on the high side. This probably results for two reasons. First, the prices found in Standard Rate and Data Service are list prices which could be expected to exceed actual local news transaction prices. Second, advertiser demand for access to local news audiences can be expected to exceed the number of access opportunities available. This should result in higher costs per thousand and higher prices. Further inspection of Table 1 suggests that there is a great deal of variability present in each of the news specific variables provided.

The results from using the data to estimate six news price equations are found in Table 2. Since a doublelog functional form was utilized, the nonstandardized regression coefficients provided are directly interpretable as elasticities[30]. The average quarter hour household audience which corresponded to a given news program was alternately included and excluded. One hundred and thirty stations were included in the noon news price analysis; 239 in the early evening analysis: and 229 in the late evening analysis.

TABLE 1

Local Television News List Price Variable Means and Standard Deviations

Variable	Mean	Standard Deviation	N
Noon News Price	$126	$146	134
Noon News Audience (HHs)	32,300	32,400	134
CPMHH for Noon News	$5.63	$6.52	134
Early Evening News Price	$268	$400	248
Early Evening News Audience (HHs)	53,400	59,000	248
CPM for Early Evening News	$6.97	$8.00	248
Late Evening News Price	$325	$595	236
Late Evening News Audience (HHs)	48,500	60,850	236
CPMHH for Late Evening News	$6.99	$3.93	236

Inspection of the results provided in Table 2 suggests that including news audience as a predictor variable results in major conflicts with respect to a number of hypothesized relationships. Most notably, network affiliates, VHF stations, and stations operating outside of the Top 50 television markets all appear to charge lower prices when the endogenous audience variable is included as a predictor variable. Likewise, market concentration, as measured by the Herfindahl Index, is much less of a factor, and actually has a significant negative effect on the price charged at noon. The differences found may in fact be true ones since the primary reason for expecting positive relationships between price, network affiliation, VHF signal type and market size stem from an expectation that audience size will be larger ceteris paribus. However, if one agrees with the theory that local news audience is an endogenous variable with respect to local news price, the coefficients provided in the Table 2 regressions which include audience as a predictor variable are biased and inconsistent[31]. Consequently, the rest of the discussion focuses on the correctly specified reduced form estimates (those without audience).

Overall, the non-audience news price models found in Table 2 yield good estimates of individual station prices. This contention is supported by the high R^2's associated with each equation estimated (.68, .66, and .73) and the low coefficients of variation (10.1 percent, 9.8 percent, and 9.7 percent). Additionally, the non-audience equation estimates provided are generally consistent with our hypotheses.

Most notably, a one percent increase in ADI cable penetration caused 1978 local news prices to fall by .21 to .27 percent. This result suggests that cable television systems are having and will have significant negative effects on broadcast revenues (and ultimately profits).

TABLE 2

Regressions on Television News Advertising Prices.
Doublelog Form (t-statistics in Parentheses).
{[a]p<.1 for a 1 tail test; [b]p<.05 for a 1 tail test: [c]p<.01 for a 1 tail test}

Dependent Variables / Predictor Variables	Ad Price Noon News	Ad Price Noon News	Ad Price Early Evening News	Ad Price Early Evening News	Ad Price Late Evening News	Ad Price Late Evening News
TV-Radio Combo	-.03	-.05	.03	.08	-.08[a]	-.05
	(0.42)	(0.52)	(0.55)	(1.08)	(1.47)	(0.71)
Group-Owned	.09	.15[a]	.04	.09	-.02	-.01
	(1.00)	(1.49)	(0.53)	(1.11)	(0.41)	(0.12)
Newspaper-Owned	-.09	-.11	.02	.05	-.09	.04
	(1.02)	(1.08)	(0.31)	(0.54)	(0.14)	(.42)
Same-Mkt Newspaper-TV Combo	-.02	-.07	-.002	-.09	-.01	-.08
	(0.19)	(0.46)	(0.00)	(0.71)	(0.06)	(0.58)
ABC Affiliate	.02	.34[a]	-.33	-.24	-.24	.30
	(0.10)	(1.44)	(0.73)	(0.46)	(0.86)	(0.78)
CBS Affiliate	.05	.46[b]	-.20	-.003	-.14	.42
	(0.24)	(2.10)	(0.44)	(0.00)	(0.50)	(1.09)
NBC Affiliate	-.02	.41[b]	-.24	-.03	-.26	.43
	(0.08)	(1.86)	(0.52)	(0.06)	(0.92)	(1.13)
VHF	-.19	.14	-.05	.22[c]	-.11[a]	.31[c]
	(1.25)	(0.89)	(0.54)	(2.37)	(1.42)	(3.20)
TOP 10	.63[b]	1.53[c]	.98[c]	2.33[c]	.59[c]	2.30[c]
	(2.17)	(5.25)	(3.75)	(9.35)	(2.70)	(9.23)
11-25	.15	.94[c]	.48[c]	1.53[c]	.27[a]	1.47[c]
	(0.61)	(3.91)	(2.32)	(7.81)	(1.58)	(7.42)
26-50	.06	.73[c]	.20	1.11[c]	-.09	.99[c]
	(0.30)	(3.40)	(1.14)	(6.62)	(0.62)	(5.76)
51-100	-.31[b]	.19	-.05	.69[c]	-.20[b]	.53[c]
	(1.74)	(1.00)	(0.33)	(4.88)	(1.72)	(3.65)
101-150	-.34[b]	-.07	-.19[a]	.32[c]	-.31[c]	.10
	(2.06)	(0.36)	(1.49)	(2.47)	(3.02)	(0.72)
Cable Penetration	-.21[c]	-.25[c]	-.14[c]	-.21[c]	-.14[c]	-.27[c]
	(3.00)	(3.05)	(2.53)	(3.19)	(2.95)	(4.08)
Herfindahl Index	-.20[c]	-.05	.08	.36[c]	-.03	.22[c]
	(2.50)	(0.60)	(1.10)	(4.97)	(0.52)	(2.98)
Consumer Spendable Income/HH	-.02	.24	-.04	.02	.39[a]	.83[c]
	(0.06)	(0.55)	(0.14)	(.05)	(1.57)	(2.46)
No. of HHs Viewing	.38[c]	----	.45[c]	----	.67[c]	----
	(6.31)		(8.92)		(13.90)	
Constant Term	5.00	3.25	4.13	3.55	2.00	-.10
R^2	.768	.686	.753	.664	.860	.732
Standard Error of Est.	.394	.457	.437	.508	.368	.508
Coefficient of Variation	.087	.101	.084	.098	.070	.097
N	130	130	239	239	229	229

The market concentration results (Herfindahl Index) found in Table 2 fulfill our expectation that an increase in market concentration will lead to an increase in price. Market concentration had no effect on noon news prices. However, a one percent increase in market concentration (the Herfindahl Index) resulted in .36 percent higher early evening news prices and .22 percent higher late evening news prices. Likewise, higher income audiences appear to be worth more to late evening news advertisers. A one percent increase in a market's consumer spendable income per household led to an increase in late news prices of .83 percent.

As for the ownership type variables examined (TV-radio combinations, group-owned stations, newspaper-owned stations, and same-market newspaper-TV combinations), there is little to report. Television stations which own radio stations in their market of operation charged somewhat lower (but not significantly so) prices at noon and in the late evening and somewhat higher prices for the early evening news. Group-owned stations charged 15 percent higher prices at noon than did all other stations and nine percent more for early evening news spots. However, their late night prices were no different from all other stations, ceteris paribus. Newspaper-owned stations had somewhat lower prices at noon; no real difference existed for early evening and late evening newscasts. Finally, television stations which are owned by daily newspapers in the same ADI charged lower prices (but not significantly so) at noon, in the early evening and for the late evening news.

Network affiliation had the expected effect on news prices except in the early evening where no difference was found between the price charged by affiliates and those charged by independents. The major caveat which exists with respect to our affiliation results is that only a small number of independent stations were included in the final estimate of each equation (six in the noon analysis, one in the early evening analysis and two in the late evening analysis). Consequently, the most important affiliation results are found

by comparing ABC affiliates to CBS affiliates to NBC affiliates. The results contained in Table 2 suggest that news advertising prices were highest on CBS and NBC stations in 1978.

Finally, the signal type and market rank coefficients confirm our expectations. VHF stations charged significantly higher prices to early evening and late evening news advertisers than did UHF stations (22 and 31 percent more respectively). Likewise, stations operating in larger markets consistently charged advertisers higher prices for access to their audiences. For example, stations operating in the Top 10 television markets charged advertisers 230 percent higher rates in 1978 for a late evening news spot than did stations operating in markets 151+. In markets 11 to 25, the differential was 147 percent. The rest of the coefficients are interpreted in a similar manner.

DISCUSSION

A number of policy questions were posed at the beginning of this article. These questions can now be answered in a definitive manner. Four types of ownership were examined. Only in the case of group-owned stations was a significant relationship discovered: that group-owned stations charged significantly higher noon news prices in 1978.

On the other hand, significant relationships were found between the remaining policy variables and the price charged news advertisers. Specifically, cable penetration was found to be inversely related to news prices and market concentration was found to have a positive effect on price.

The former results suggest one of two things. Either same-market cross-media combinations do not possess more market power than all other stations, ceteris paribus, or they were not exercising the extra market power which they possessed with respect to the prices charged local news advertisers in 1978.[32]

The analysis presented herein cannot determine which of these represents the true market condition. However, these results clearly suggest that the prices charged by the ownership types included in this study were consistent with the prices being charged by all other stations. In other words, no overt exercise of power over price was found with respect to the ownership types studied.

The cable penetration results are consistent with the audience diversion studies submitted as part of the FCC's Cable Television Economic Inquiry.[33] There is no question but that increases in cable penetration, all other things equal, result in reduced broadcast audiences. The results of this study provide an estimate of the relationship between cable penetration and the prices charged to gain access to the audiences produced by each station's most important type of local program. Clearly, the negative effect cable television has on broadcast audiences results in lower advertising prices (and ultimately lower revenues).[34] No broadcaster has yet been forced off the air because of cable television. However, as cable penetration increases, broadcasters can be expected to achieve levels of profitability which are more consistent with normal economic returns. As cable competition reduces the excess profits earned by broadcasters to normal levels, the FCC's taxation by regulation scheme will have to be modified.[35]

The market concentration results indicate that stations which operate in markets with less direct television competition and/or with more uneven competition charge higher news prices, all other things equal. Telecommunication policy makers have been struggling with this problem for many years. Since only a limited number of over-the-air commercial television channels have proved viable given the FCC's policies and table of allocations, the primary method for reducing the undesirable effects of television market concentration, increasing the number of competitors, seemed out of reach. Recently, however, the FCC has taken a number of steps which should increase competition in television markets

in the long run. Examples of such pro-competitive policy include: a laissez faire approach to cable television, allowing for the licensing of over-the-air pay television stations, allowing for the development of thousands of low power television stations, and considering the use of direct broadcast satellites for program delivery to the home. Such policies should reduce the market power possessed by any given television firm. However, as indicated in the discussion of the cable penetration results, the FCC should not be allowed to indefinitely maintain its scheme of taxation by regulation as it increases the competition television broadcasters must face.

FOOTNOTES

[1]Barry Litman, "Market Share Instability in Local Television News," Journal of Broadcasting 24 (Fall 1980), pp. 499-514.

[2]Robert Prisuta, "Local Television News as an Oligopolistic Industry: A Pilot Study," Journal of Broadcasting 23 (Winter 1979), pp. 61-68.

[3]Litman, op. cit., p. 512.

[4]See generally, Bruce Owen, Jack Beebe and Willard Manning, Television Economics (Lexington, Mass.: D. C. Heath and Company, 1974), p. 10.

[5]Bruce Owen, "Newspaper and Television Station Joint Ownership," Antitrust Bulletin 18 (1973), pp. 787-807.

[6]A.M. Lago, "The Price Effects of Joint Mass Communication Ownership," Antitrust Bulletin 16 (1971), pp. 789-813.

[7]J. L. Peterman, "Concentration of Control and the Price of Television Time," American Economic Review 61 (1971, Papers and Proceedings), pp. 74-80.

[8]Michael O. Wirth and Bruce T. Allen, "Crossmedia Ownership, Regulatory Scrutiny, and Pricing Behavior," Journal of Economics and Business 33 (Fall 1980), pp. 28-42.

[9]Federal Communications Commission, Notice of Proposed Rulemaking 45 Fed. Reg. 5963 (1970).

[10]See Michael Wirth and Bruce Allen, "Another Look at Crossmedia Ownership," Antitrust Bulletin 24 (1979), pp. 88-90 for a brief discussion of the specific issues involved.

[11]Owen, op. cit., p. 791.

[12]Lago, op. cit., pp. 790-792.

[13]Peterman, op. cit., pp. 77-78.

[14]Wirth and Allen, (1979), op. cit., p. 89.

[15]R. S. Pindyck and D. L. Rubinfeld, Econometric Models and Economic Forecasts, (New York: McGraw-Hill, 1976), pp. 17-18.

[16]The AUDHH variable is presented as part of the overall news price model even though its values are alternately included and excluded in the analysis.

[17]List prices for each of the depedent variables were obtained from Standard Rate and Data Service: Spot Television Rates and Data. When rate cards with frequency discounts were encountered, the one time only spot rate was utilized.

[18]The 1979 Broadcast Yearbook was utilized as the main data source for the predictor variables included in the news price models. The only variables which did not come from this source were: each market's consumer spendable income per household, which came from a 1979 edition of SRDS: Spot Television Rates and Data; each market's cable penetration, which came from the 1979 Television Factbook; and the news audience variables and the Herfindahl Index, which used data obtained from individual market sweeps by ARBITRON TV (November 1978).

[19]This hypothesis finds support in the audience diversion studies done by George R. Schink and Sheela Thanawala, The Impacts of Cable TV on Local Station Audience National Association of Broadcasters Final Report (March 1978); Also, see Comments of the National Cable Television Association (March 15, 1978), FCC Docket No. 21284; For more recent evidence of the effect of cable television on those markets hardest hit by cable competition, see Paul Bortz and Michael Wirth, et. al., The Economics of Television Station Operation in 100-Plus Markets National Association of Broadcasters Final Report (February 1981).

[20]Each market's Herfindahl Index was calculated by using the following formula:

$H = \sum_{i=1}^{n} S_i^2$, where S_i was the audience (HH) share of the ith station from 9 a.m. to Midnight in November 1978. When an ADI was occupied by only one TV station, the index attained its maximum value of 1.0. The value declines with increases in the number of stations and increases with rising inequality among any given number of stations. See F. M. Scherer, Industrial Market Structure and Economic Performance (Chicago: Rand McNally, 1970), pp. 51-52 for a complete explanation of how the index works and for support of the stated hypothesis.

[21]Support for this hypothesis is found in Owen, op. cit., p. 806; Lago, op. cit., p. 802; Peterman, op. cit., pp. 77-79; and Wirth and Allen, (1980), op. cit., pp. 36-37.

[22]This hypothesis is consistent with the results reported by Lago, op. cit., p. 802; and Wirth and Allen, (1980), op. cit., p. 38.

[23]See Wirth and Allen, (1980), op. cit., p. 41.

[24]See Barry Litman, "Public Interest Programming and the Carroll Doctrine: A Re-Examination," Journal of Broadcasting 23 (Winter 1979), pp. 56-57; Also see Michael Wirth and James Wollert, "Public Interest Programming: Taxation by Regulation," Journal of Broadcasting 23 (Summer 1979), p. 323.

[25]Ibid.

[26]All of the previously mentioned econometric studies concerned with this issue adopted this hypothesis. Only in the case of Owen, op. cit., p. 806 was this hypothesis found to be empirically valid. Wirth and Allen, (1980), op. cit., found a negative relationship. After testing a number of different theories, they reached the conclusion that regulatory scrutiny had caused crossmedia owned stations to hold the line on prices in inflationary times and that this had resulted in lower crossmedia prices.

[27]This hypothesis is supported by Owen, op. cit., p. 806: Lago, op. cit., p. 802; and by Wirth and Allen, (1980), op. cit., p. 38.

[28]All of the previously mentioned studies which focused on television pricing in the context of the crossmedia question support this hypothesis.

[29]See Wirth and Allen, (1980), op. cit., p. 36 for support of this expectation.

[30]Regression coefficients which are obtained from doublelog functional forms, allow us to directly answer the question, what is the percentage change in a dependent variable given the percentage change in a given predictor variable, all other things held constant.

[31]See Pindyck and Rubinfeld, op. cit., pp. 132-137. An additional course of action will be pursued in future research to eliminate the problems associated with using audience as a predictor variable. To accomplish this, a recursive equation system will be developed.

[32]See Wirth and Allen, (1980), op. cit., pp. 40-41 for a discussion of these issues.

[33]Federal Communications Commission, Inquiry Into the Economic Relationship Between Television Broadcasting and Cable Television (1978), Docket No. 21284.

[34]See Schink and Thanawala, op. cit.; Comments of the National Cable Television Association, op. cit.; and Bortz and Wirth, op. cit.

[35]See Carroll Broadcasting Company v. Federal Communications Commission 258 F.2d 440 (1980); Richard Posner, "Taxation by Regulation," Bell Journal of Economics and Management Science 2 (1971), p. 22 provides a complete discussion of taxation by regulation in general; and Wirth and Wollert, op. cit.